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LEADING ARTICLES

TOURING THE LANDS WHERE MEDICAL SCIENCE EVOLVED.

EIGHTH PAPER.*

ROBERT G. ECCLES, M. D.

BROOKLYN, N. Y.

[FOR THE MEDICAL FORTNIGHTLY.]

ACROSS NORTH AMERICA—WESTWARD.

Every reader of the Medical Fortnightly must be familiar with the parable in which the kingdom of heaven was likened to a man who hired laborers for his vineyard, paying to each the same daily compensation whether they began work at 5 a.m. or at noon. The objectors to this seeming unfairness were peremptorily told that a master had a right to do as he saw fit with his own property, and that they ought to learn that in the kingdom of heaven destiny had so arranged things that "the last shall be first and the first last." In these travel tales such a reversal has actually occurred, bringing our country in at the close, and, if our attempts at prevision are not seriously faulty, the United States though the last to begin work in the vineyard of biology, is destined to become first in the amount and quality of the work it is going to accomplish. For the very brief period of its efforts the returns are, relatively, greater than those of many older nations.

Thanks to the generous liberality of our Rockefeller, Carnegie, Elizabeth Thompson, the McCormicks, Johns Hopkins, Phipps, and others, funds and laboratories have been supplied and an example set for still other conservors of public wealth to go and do likewise, when the stream of gold they have had the skill to direct begins to transcend their power of utilizing it in new productive channels. We are already rapidly hurrying into the forefront of science, but our great danger—the incessant danger of every democracy—menaces us with defeat. This danger is due to speed madness on one side and sentimental hysteria on the other. Impatience and pity the two best yet two worst traits of human nature—make excellent servants but woefully brutal masters. Like a holocaust of consuming flame they can be fanned into horrible uncontrollability by trivial causes. They are the agents that direct would be reformers and the latter are the anarchists of science. In the name of reform they invoke the fetish of legislation, hoping to accomplish in an hour what would require a century. They fail utterly to appreciate the fact that evolution is and must be slow. Compulsory progress always means weakness in progress where it does not mean positive reversion. This is why he who announces himself as a reformer is usually at heart a rampant anarchist, defying nature as the political anarchist defies government. Utterly oblivious of the established harmonious adjustments of beneficent forces, that lie too deep for his superficial methods of mental analysis, he seeks compulsory adjustments that disrupt, tear, and rend society to its core and along lines that he never dreamed he was going to affect. Blind and oblivious to everything except the relatively trivial evils, that nature was at work curing before he was born, he exaggerates these evils from molehills into mountains and the bewildered masses, taking his madness to mean earnestness in their behalf, help him into power. Usually he is right regarding the existence of the evils he points out, and he would be an

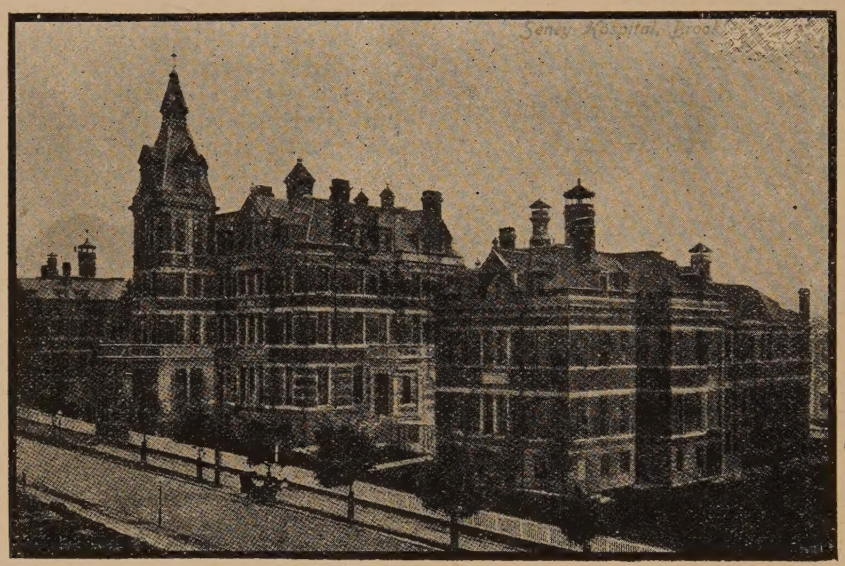
* The first chapter of this series of letters, "Grecian," appeared in the Medical Fortnightly, issue of October 10, 1908; the second chapter, "Christian and Saracen," appeared January 11, 1909; the third, "Medieval and Renaissant," appeared March 10, 1909; the fourth, "Iberia and Lusitania," May 10; Gallia Transalpina, July 26; Britannia, November 25, 1909; Candia to Gallia Cisalpina, March 10, 1910.

excellent educator if he could be put into a straight jacket as soon as his symptoms are so severe that he asks for legislative aid to do that which in the nature of things, neither he nor the legislators can appreciate the seriousness of meddling with in that manner. In biological work the danger from impatience and short sighted pity are intense. They work together in a vicious circle. A demand for quick results, in order to have weapons with which to pacify, confound, or defeat hysterical objectors to such work leads to the intensification of the very conditions against which the sympathetic protest.

Proper experiments—those that are really scientific—are intelligent questions put to nature in order to get its "Yes" or "No." The reply, usually anticipated, confirms or corrects the ideas of the experimentor. Haphazard experimenting, with the vague hope of a chance discovery, Tyndall has said, is jargon addressed to nature, and the reply is usually likewise jargon. The torture of animals with jargon experiments is atrocious. Ignorant sentimentality intensifies public impatience and the attempt, on the part of experimentors, to hurry up results brings unnecessary cruelty. If we, as physicians, wish to stop physiological cruelty we must turn deaf ears to those who would place unsympathetic overseers over our experimentors. The way to make jargon experiments abhorrent is to pillary with contempt all who resort to them, and use existing laws to punish them. Paid inspectors can never understand or sympathize with science. America should, and can, take the lead in the important task of advancing medical science. Let us help it by understanding its needs and directing public sentiment away from the support of its enemies. Already the good work is progressing and this travel tale aims to show its promising character. In presenting the facts in the way here used I desire in this, as in prior communications, to imitate the Bishop of Bedford in that,

> "The eare-worn traveller in dusty ways,
> The things that I see shall see,
> And give to the Giver his song of praise,
> As he shares my joy with me."

In seeing North America the writer has, when taking his summer holidays, adopted the plan of visiting, in successive years, places of historic interest, scenic interest, botanic interest, geologic interest, etc. Our country has thus been seen, piecemeal.



SENEY HOSPITAL, BROOKLYN.

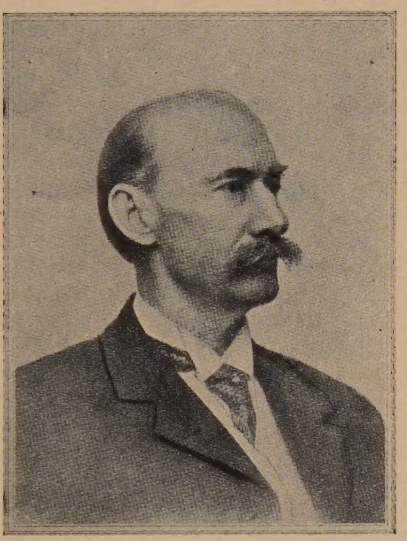
BROOKLYN.

Brooklyn, where my transcontinental tour began, is known as the "City of Churchs," but, besides a long list of these it contains a dozen hospitals, eight or ten dispensaries, the world famous Greenwood Cemetery, the incomparable Coney Island, the world's finest suspension bridges, two parks of intense historic interest, fine public buildings, a subway in which travellers pass beneath an arm of the sea and have immense ocean steamships sail over them, a Long Island College Hospital where the first American experiment of bringing medical teaching and medical training to-

gether was begun in 1857, a pathological laboratory, etc. A few minutes walk from where these words are being written the fate of the United States, as a nation, hung in the balance as never before nor since. In Prospect Park the British and American troups had one of their most fierce battles. By a mistake of General Putnam, the American troops were caught in a trap where absolute annihilation threatened them. At Gowanus bridge the soldiers of Cornwallis were held at bay for ten minutes—the most precious ten minutes in American history. It enabled our army to escape destruction. The Brooklyn Institute of Arts and Sciences has been doing much for biology, and thereby for medicine, through its Cold Spring Harbor marine laboratories. Every summer this is a Mecca for many biologists who there have made discoveries in heredity, tissue regeneration, organ transplantation, embryology, and prenatal malformations. The Carnegie Institute station for Experimental Evolution is likewise there and, practically new creations in animal life have been produced therein. by Professors Charles B. Davenport, W. L. Tower and others. The new botanic garden of the Brooklyn Institute is under the care of C. S. Gager who has, experimenally, created some new plants. It was George R. Fowler, of Brooklyn, who first started the first aid to the injured classes, and to him the world is indebted for a method of gastro-enterostomy, of total pleurectomy, and of inguinal hernia. He also worked out a valuable method of preparing catgut and "Fowler's position," after operating in peritonitis, is known to all surgeons. L. S. Pilcher, another Brooklyn surgeon, introduced a new method of reducing Colles' fracture, and a new method of treating hemorrhoids. A. J. C. Skene produced what is, probably, the best work on gynecology in our country. Charles Jewett was the first in America to perform symphyseotomy. The writer experimentally established the United States Pharmacopeial test for pepsin, that afterwards became, with slight modifications, the test for the world; performed the first experiments upon the effects of acids, antiseptics, and drugs generally, on pepsin, and first showed the value of benzoic acid as a preservative.

NEW YORK CITY.

Across "East River," from Brooklyn, is the borough of Manhattan. Its "skyscraper buildings," Wall Street, Broadway, Bowery, Fifth Avenue, Riverside Drive, Central Park, Bronx Park, botanic garden, zoological garden, aquarium, public museums, public buildings and monuments, command the enthusiastic attention of most visitors. Patriotic Americans are interested in visiting Washington's statue, that stands on the spot where he became the first president of the United States, and learning that when there they are surrounded with more than the wealth of Croesus. The mint faces them, J. P. Morgan's offices are behind them, while banks and safe deposit vaults surround them. So numerous are the hospitals and dispensaries of Manhattan that medical visitors would be wearied inspecting them all. Here they could spend weeks seeing all sorts of new operations and learning of many methods of treatment. With such advantages it is surprising that



DR. JOHN A. WYETH.

it remained for John A. Wyeth, of our own generation, to think of utilizing them by starting his Polyclinic—the first American post-graduate college, and, today, the most successful. Medical men from all parts of the United States come here to round out their education under his special care. It was in the same borough that the first American medical journal, the New York Medical Repository, saw daylight, under the editorial care of Elihu H. Smith. Here Samuel Bard helped found King's College and, in 1807, became dean of the College of Physicians and Surgeons—the first American medical college to demand a high standard of education. Here James Macneven started the first American Medical Chemical Laboratory. Here David Hosack introduced to our country vaccination, the stethoscope, quarantine, ligation of the

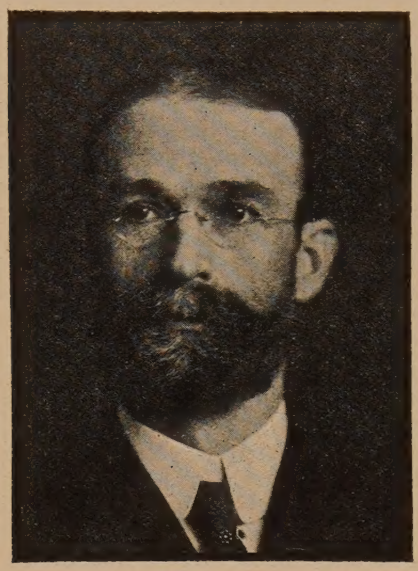
femoral artery in the upper third of the thigh in imitation of Scarpa, and advocated the establishment of municipal hospitals for contagious diseases. Here Willard Parker performed cystotomy for the first time in America and also operated for appendicitis. He was one of the organizers of the New York Pathological Society. Here John Torrey turned his attention to American botany and helped lay the foundation for our knowledge of evolution. Here Valentine Mott won his reputation in surgery by becoming the American pioneer of many difficult operations. Among these was excision of the collar bone for osteo-myelitis and the ligating of the innominate artery for aneurism. Here John C. Dalton introduced class experiments in physiology, did his work on the Corpus Luteum that won for him the A. M. A. prize, and gained the reputation of being the first American professional physiologist. Here Alonzo Clark introduced into American practice the use of sodium salicylate in rheumatism. Here Austin Flint popularized physical diagnosis and by aid of his facile pen kept medical men interested in the progress of medicine. Here J. Marion Sims revolutionized the practice of gynecology for the whole world, invented the duck-bill speculum that bears his name, introduced the use of silver sutures, and treated vesico-vaginal fistula with a success never before approached. Here Henry Draper taught us how to use photography in medicine, determined the function of the spleen, and very materially advanced 19th century astronomy and physics, particularly in the direction of stellar spectra. Here J. A. Wyeth, besides founding our first post-graduate college, as already mentioned, lessened the death rate by substituting ligation of the external carotid for ligation of the common carotid, introduced his bloodless method of amputating at the hip joint, and greatly improved the treatment of vascular tumors by cooking them with water injected into their substance. His essays on the Carotid Artery, and on the Innominate and Subclavian Arteries and his most excellent volume on Surgery have added materially to our knowledge of anatomy and surgery. The essays won for him two prizes from the American Medical Association. Here Simon Flexner enriched our knowledge of cerebrospinal meninigtis, of its treatment, of plague, of bacillary dysentery, of toxins and antitoxins, and of snake venom. Here Eugene L. Opie discovered a multitude of before unknown facts concerning the anatomy and pathology of the pancreas, of its relationship to diabetes, of the nature of inflammation, of protozoon infections, of enzymes in inflammatory exudates, and of enzymes in the bone marrow. Here Christian A. Herter has discovered a world of facts regarding the flora of the intestines and has very materially added to our knowledge of chemical pathology. To him is also due the credit of giving to America its first Journal of Biological Chemistry. Here S. J. Meltzer, through the munificence of John D. Rockefeller, has established the world's research laboratory, given us new information on the mechanism of deglutition, on the bactericidal action of the blood, on how fluids are carried from the peritoneal cavity into the circulation, on the absorption of strychnine and hydrocyanic acid by the mucous membrane of the stomach, on respiration without respiratory movement, on toxicity of the bile, on the physiology and pharmacology of magnesium salts, on pseudo-tuberculosis, and on the relation of lesions to the multiplication of and infection by bacteria. Here Gary N. Calkins, although not a physician has advanced our knowledge of cancer, smallpox, and pathogenic protozoa. Here H. H. Rusby advanced our knowledge of medicinal plants. Here P. A. Levene discovered new facts about nucleo-proteids of the spleen, leucin in animal proteins, phloridzin effects on the bile, and gelatin. Here H. Noguchi simplified the Wasserman test, and enriched our knowledge of lecithids, snake venoms, toxins, hemolysins and eosin. Here C. McBurney evolved new methods for gallstone operation, abdominal aorta compression, and incision in appendicitis as well as making us familiar with McBurney's point. Here A. Jacobi advanced our knowledge of diphtheria, intestinal diseases, the origin of calculi, the thymus gland, and of heredity in syphilis. Here E. L. Keyes produced his evacuator and prostatectomy pad, and developed his operation for varicocle as well as gave new facts on venereal diseases. Here Christian Fenger evolved his operations for ureteral stricture, and valve-formation of ureter. Here E. B. Wilson advanced our knowledge of the cell, and T. H. Morgan supplied new facts in embryology, regeneration and comparative anatomy. Here H. F. Osborn has increased our knowledge in the causes of evolution and pointed out the fact that disease is a factor in natural selection. None of the last three are physicians. The present writer deems this association of disease with natural selection exceedingly important for the future of medical science. To me it seems almost a certainty that our entire interior

structure is an accumulation of myriads of selected defences against disease.

ALBANY.

After seeing New York, a trip up the Hudson River, by the day boat, to Albany, is one of the things no visitor should miss. It is the nearest approach to a sail through the fjords of Norway that our Atlantic coast can supply. The scenery is enchanting and, in its primitive wildness, must have been very alluring to Henry Hudson and his Dutch crew when they sailed up it with the hope that it would lead them to the Pacific Ocean and to Asia. The basaltic cliffs, known as the Palisades, tell us of some ancient volcanic eruption that covered the region with lava, and the deep-cut channel of the river attests how the ice of the glacial age cut its way through the same on its passage toward the sea. Sleepy Hollow, and the Catskill Mountains. are reminders of Rip Van Winkle and his long sleep. West Point is a beauty spot where young Americans are trained in the art of war. Many handsome country homes, of rich New Yorkers, and many pretty towns, nestle along the green slopes of the river's bank. The West Shore and the Hudson River Railways skirt the respective banks most of the way to Albany, so that the passage of passenger and freight trains on both sides of the river, and going in both directions, are continuous additions to the interest of the trip. To the historian Albany will always be of interest as the first Dutch settlement in America, as the second oldest settlement of white men on the Atlantic coast, and as the capital of the richest State in America. To the Dutch it was known as Beverwick, and as Willemstadt, but when captured by the English in 1664 the name was changed to Albany in honor of the Duke of York and Albany. New York got its name from his first title and Albany his second. As lord of the Highlands of Scotland, then known as Albany, he thus conferred a Scotch name on the city but, singularly enough this same name was the one by which all of Britain was known to the Romans when Aristotle wrote his "Treatise of the World." The capital is Albany's finest building and cost the State nearly twenty-two millions of dollars. The building, however, that is likely to be of greatest interest to medical men will be its medical college. There the man received his medical degree whose research work has counted for more than that of any other American, so far as the future of our knowledge of disease is concerned, and in that city he was born. He and Salmon were the first in this world to produce artificial immunity toward disease by inoculations of toxins formed during bacterial multiplication. Roux and Chamberland, of the Pasteur Institute, have been given the credit for this when in fact it was first discovered by Americans, in America. Until this discovery had been made we could have known nothing about antitoxins or of immune sera. Our whole modern knowledge of immunity against disease had its birth in these experiments. To this same gentleman we are indebted for our first step in our knowledge of the self-digesting power of tissues, removed from the body under strict antiseptic care. The far-reaching consequences of this discovery of his are only beginning to be appreciated by students of Mendel's law who are familiar with pathology. During Ehrlich's visit to America this same gentleman called the German pathologist's attention to the strange fact that when animals are injected with a foreign serum repetition of the dose, a week or two later, leads to serious or fatal results. From this beginning we got our modern knowledge of anaphylaxis, that is likely to play havoc with a lot of the old notions we had concerning the physiology of digestion, and that is pretty certain to enlighten us on idiosyncrasies toward foods and medicines. When it comes to be applied to embryology we may see a revolution in our ideas. Our most serious cases of asthma are also likely to have light thrown upon them from this quarter. The same gentleman, assisted by Dr. Kilborne, worked out the life history of the protozoon of Texas fever. This work was epoch-making for protozoology inasmuch as it gave the clew to the life histories of the malarial and other such parasites. The task was then, probably, the most difficult one of the kind ever undertaken, because of its great complexity and its covering two generations of the infected animals, besides the infected ticks. Koch's work with the tubercle bacilli was much simpler. Among many other exceedingly important contributions to medical science that have come from him are his discovery of where discontinuous sterilization may be ineffective, his researches on bovine and human tuberculosis, on the production of indol by bacteria, on the differentiation of related bacteria by their pabulum, and on the production of immunity with balanced or neutral mixtures of toxin and antitoxin. Four of his discoveries appear to be epoch-making, and any one of these four would have immortalized the discoverer in Germany, France, or England had he resided in one or other of

these countries. If ever scientific man deserved to be honored with Nobel prize, or peerage, it is this author's honest conviction that that man is Professor Theobald Smith, of Harvard University. He is a stranger to me, personally, but as a student of science



THEOBALD SMITH, M. D.

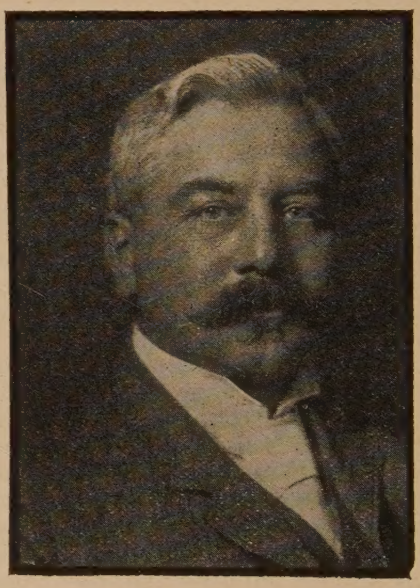
I know of no other man of our day who has opened up so many new and important regions by research. American silence is construed in Europe to mean American indifference and where such indifference exists prizes are not going to be bestowed. Our statesmen and politicians show no such indifference and our country has been glorified accordingly—in politics.

SARATOGA SPRINGS.

From Albany we proceeded by rail to Saratoga Springs, drank of its effervescent waters, that nature has there so bountifully supplied, visited Mount McGregor and the cottage in which General U. S. Grant died, and after taking in the beauties of the great summer resort proceeded to Caldwell. Here a trip up Prospect Mountain gives the visitor a magnificent view of Lake George and a sail on the lake steamboat to Baldwin proves to be a continuous panorama of ever changing beauties. A four miles trip on the train to Fort Ticonderoga, takes the tourist to the Lake Champlain steamboat which carries him through another ever changing maze of mountain beauty. Landing at Plattsburg he is ready for carriage rides to Bluff Point, Ausable Chasm, and a short distance into the Adirondack Mountains where he can see the last resting place of poor John Brown whose body has so often been sung about, as mouldering in that grave. While Brown will recall to the mind of the visitor our Civil War the numerous stopping places bearing the pre-name "Fort," that cover the country from Saratoga to Canada, will recall the French and English wars and our war of the Revolution.

MONTREAL.

The trip from Plattsburg to Montreal is a short but, historically, very interesting one. The points of chief interest to medical tourists, in Montreal, are McGill College, Mount Royal Park, the General Hospital, Royal Victoria Hospital, Hotel Dieu, St Helen's Isle, the great Victoria Bridge and Lachine Rapids. McGill College will, of course, be associated in their minds with William Osler and John G. Adami. The former won fame through his brilliant ability as a teacher, his classical studies in cerebral palsies of children, his investigations of chorea and choreiform affections, and his studies of gastric cancer, abdominal tumors and angina pectoris. His System of Medicine is the most complete work of its kind ever produced by an American. Dr. Adami has given to the profession what



J. GEORGE ADAMI, M. D., F. R. S.

is probably the most thorough and up-to-date text-book on Pathology that has ever been published. His researchs on the mammalian heart, inflammation, heredity, cirrhosis, cancer, and tuberculosis have won for him world-wide recognition as an

able investigator. Osler graduated and taught at McGill and Adami is Professor of Pathology there. Mount Royal Park lies immediately behind the University and from the summit the visitor can have a most fascinating view that extends to the Laurentian Hills, the Adriondacks, up and down the St. Larence River, and off into the Green Mountains of Vermont, while immediately below lies the city of Montreal. The public park on St. Helen's Isle is beautifully laid out. The "shooting," in a steamboat, of Lachine rapids is one of the thrilling experiences of a visit to this region.

QUEBEC.

Side trips to Quebec and to Ottawa added to the interest of our visit, the former by boat and the latter by train. Quebec is very much like many of the old European cities in its narrow, steep streets, its fortifications crowning the hill, and its numerous French-speaking inhabitants. The view from the Chateau Frontenac is very fine, and the trip to Montmorency Falls exceedingly interesting. Ottawa is much more modern than Quebec and its Houses of Parliament, occupying the highest point in the city give it a stately and artistic look. Ottawa river recalled to my memory Moore's Canadian Boat Song that, as a boy, I had often sung. In the evening the moon shone brilliantly overhead and on repeating the words,

"Ottawa tide yon trembling moon,
Shall see us float over thy surges soon,"

I became for a moment a child again and felt the old longing that the song formerly produced of, "How I would like to see that place and row a boat on that lovely river."

TORONTO.

On our return from Ottawa to Montreal we took the Steamboat Spartan for a long, two days sail up the St. Lawrence River to Toronto. The successive rapids were passed by taking canals that skirted the edge of the river. The sail through the Thousand Islands was charming, although we had been there before and spent a couple of weeks at Thousand Island Park Hotel. The beautiful cottages on many of the islands give them a most attractive and poetic appearance. The entire St. Lawrence trip is interesting, but in places it has a wild beauty that is captivating. After reaching Toronto we spent a few hours seeing its handsome university, its Toronto and Trinity medical schools, hospitals, parliament buildings and its parks. There are two professors who while connected with the University of Toronto have added to the medical knowledge of our age and are well known by their reputations to many medical men in the United States. These are James P. McMurrich, the anatomist, and Archibald B. Macallum, the physiologist. McMurrich now holds the chair of Anatomy in Michigan University. Macallum's research work has been quite extensive in the various departments of physiology. Among other discoveries he has made are those relating to the micro-chemistry of cells and the peculiar habits of phagocytic leucocytes of leaving the blood stream, entering the intestines, engulfing foreign substances and carrying these back into the blood with them. The important bearing that this must have on our conceptions of how diseases are caught is obvious. Had this work been done at the time we were in Toronto there would have been great temptation to have hunted him up and learned more about the matter. As it was we hurried away and took a boat for Lewiston from which point we inspected the gorge of Niagara River up to the falls. Here, of course, we went the usual rounds of seeing the suspension bridges, the Whirlpool, the interior of the Cave of the Winds, Goat Island, and taking the usual sail, immediately below the Falls, in the "Maid of the Mist." Having seen these sights a number of times before, and having looked upon them when enshrouded in ice and snow, the novelty was worn off, but no one can cease enjoying Niagara. When seen for the first time, many years ago, there were no electric plants nor other manufacturies drawing from its water as now. These take much of the charm away and as they increase in numbers the glory of Niagara will wane, if it does not finally disappear. It is but a few miles to Buffalo and that growing city is likely to draw increasingly on the power of the falls to run its machinery, light its homes, and propel its trolley cars. During the Buffalo Exposition all of the buildings on the exposition grounds were brilliantly illuminated by electric power from Niagara. They looked like a bit of fairy land but while enjoying such splendor it was difficult to refrain from heaving a sigh at the lessened grandeur that this meant for the falls.

BUFFALO.

Every visitor to Buffalo is sure to be greatly impressed with its beautiful parks, its fine, broad boulevards, its "Front," its artificial lake with nearly four miles of path around it, its State Insane Asylum,

and its city hall. Austin Flint was one of the founders of the medical college and John Dalton, "America's first professional physiologist," taught here.

UP THE GREAT LAKES.

From Buffalo we proceeded on the steamship "Northwest" for Duluth, Minnesota. Being July this lake route was deemed cooler than by rail. During much of the voyage overcoats were required. The Cleveland stop recalled a prior visit and an excursion to Put-in-Bay, where Perry won a victory over Britain. Did fate, accident, or miracle place there mines of strontium ore from which to procure fireworks of a lurid red with which to celebrate that and other victories, on July 4th? The beautiful, but small, crystal cave that is there is in the strontianite. It excels all other caves in this country for corruscating brilliance. On one of the islands is a mass of prehistoric Indian sculptures and, what is still more interesting, one of the most remarkable carvings of the ice during the glacial period, that exists in this or any other country. The rocks are fluted and polished as if designed for a cornice. Our next stop was at

DETROIT, MICHIGAN,

a handsomely laid out city on the Detroit River. Its streets radiate from two centers, intersected by others that form concentric circles to the centers. It contains four large hospitals, as many dispensaries, one regular medical college, and its Belle Isle Park is very beautiful. In this city Dr. T. C. McClintock has recently worked out a method of producing autolysis among infecting gonococci. The State of Michigan has its medical school, connected with the university, at Ann Arbor, inland from Detroit. At this school a large amount of research work is being done in pathology, physiology, and anatomy. It was organized in 1850 and has students from many states in its classes. Citizens of the State have only a small matriculation fee to pay and a small annual fee of merely nominal amount. Those from other states have much larger fees to pay. F. G. Novy, associated with W. J. McNeal, lately accomplished an exceedingly important piece of work in discovering a method of artificially cultivating some kinds of pathogenic protozoa. In conjunction with Victor C. Vaughan he increased our knowledge of the ptomaines and quite recently these two have taught us much about cell toxins. J. P. McMurrich has added to our knowledge of invertebrate morphology and of anatomy. G. C. Huber has given us a lot of new information in histology, anatomy, physiology and embryology.

Leaving Detroit we sailed through lakes St. Clair and Huron to the straits of Mackinac, making a stop at Mackinac Island. Old Fort Mackinaw, near here, has been frequently batted about by the exigencies of war. At one time French, then English, then French again, then once more English, then American, then English again and finally American. Returning to the St. Mary's River our ship next proceeded to Sault Saint Maria where we had the pleasure of passing through what is claimed to be the largest canal lock in the world.

NICHOLAS SENN, M D.

CHICAGO.

Had our ship not turned about at Mackinac we could have gone on down Lake Michigan to Chicago, a route previously taken. This city is on so many railway lines from New York to the West that the writer is almost as familar with it, by his frequent visits, as he is with New York. Its Jackson, Washington, Douglas, Garfield, Lincoln and Humboldt Parks, its Graceland, Rose and Calvary cemeteries, its numerous monuments, fine buildings, hospitals, dispensaries, and medical schools and its universities are all of interest to visitors and nearly all very beautiful. So many visited it during the World's Columbian Exposition that it is quite likely that most readers of this communication have been there and that descriptions are almost superfluous. To know something about the Chicago physicians who have stamped the world with their seal of scientific research

work is of far greater importance. The two best known among these are, probably, Nicholas Senn and John B. Murphy. As surgeons both have won wide recognition. Senn's bone ferrules, bone chips, and bullet probe, his method of treating intracapsular fractures of the femur, fecal fistula, and cancer, of excising the shoulder joint, of fixing the kidney and of gastrotomy are well known. Murphy's "button" is quite familiar and he has added to our knowledge of the surgery of the gall-bladder, appendix, liver and of gun-shot wounds of the abdomen. L. Hektoen has supplied new facts concerning opsonins, lysins, isoagglutinins and of the relations of streptococci to scarlet fever as well as showing some important bearings of pathology to evolution. H. Gideon Wells has given us new information on chloroform necrosis of the liver, pathological anatomy of hydrozin poisoning, purin metabolism in fetus and placenta, chemistry of the liver in acute yellow atrophy, uric acid infarcts in kidneys of new born, the bearings of enzyme reversibility to pathology, the changes due to delayed chloroform poisoning, and anaphylaxis. G. Frank Lydston has improved the treatment of urethritis and of virulent conjunctivitis and has pointed out the evolution of local venereal diseases as well as the fact that disease is a part of natural selection. Byron Robinson, through writing and research, has greatly advanced our knowledge in anatomy, surgery and gynecology. A. P. Matthews has increased our knowledge of nerve irritability of the relation between solution tension, atomic volume, and the physiological action of the elements as well as supplying a suggestive working hypothesis for the study of cell mitosis. S. A. Matthews has shown us the effect upon the heart of experimental obstruction of the left coronary artery, and shown us the action of aconitia. W. L. Towers has given important experimental evidence of evolution, and Ralph S. Lillie has helped us along similar lines and toward a knowledge of the nature of parthenogenesis. These last two are not physicians.

MADISON, WIS.

Our return from Chicago to renew our trip at Soo St. Marie is a reminder of another medical man who has added to the sum total of medical progress, and whose home is off our route. This is Charles R. Bardeen, of Madison, Wisconsin, who has increased human knowledge in comparative anatomy, experimental morphology, and human and comparative embryology.

ST. PAUL AND MINNEAPOLIS.

On reaching Duluth we journeyed to St. Paul by train, passing over regions that, in a visit of former years, was covered with dense forest, but is now under cultivation. At our first visit St. Paul and Minneapolis were looked upon as far apart but now they are almost converted into a single, picturesque city. Here is one of the prettiest spots on the Mississippi. A sail from here to St. Louis, such as the writer took many years ago, must be now much more charming than it then was but the boat accommodations are probably not as good as at that time. Minnehaha was less of a "laughing water" than in the olden days and Fort Snelling seemed to have aged. Minnetonka Lake still bore much of its old beauty. Mills of various kinds had spoiled St. Anthony Falls and the village of St. Anthony was little more than a memory. We hastened away, after looking over the old sights, feeling that the destruction of natural scenery by growing civilization was, probably, on the whole for the best.

YELLOWSTONE PARK.

An uninterrupted trip to Bismark brought us into North Dakota, the State in which Prof. H. L. Bolley is proving, experimentally, that disease is an exceedingly important force in plant creation. As our train sped through the "Bad Lands," and we saw the curious forms, like ruined castles, wrecked cities, unfinished monuments, and pictures of utter chaos and desolation, that the rocks had assumed, we tried to imagine how tempest and flood, followed by the spontaneous firing of exposed beds of coal, had wrought such havoc in the stratifications of ages. On reaching Livingston we changed cars for Cinnabar and at the latter station found the stage coach ready to carry us to Mammoth Hot Springs, in the Yellowstone National Park. This park is 55 by 65 miles in breadth and length and contains a total of 3575 square miles area. The Hot Springs are terraced with huge deposits of lime that has been given up from solution by the overflowing water. Tourists can have horse shoes and wire ornaments containing their initials encrusted with calcium salts to take home as souvenirs. Seeing the park by the usual route takes six days. A single fee can be paid that will cover staging and hotel bills. There are hotels for night stops and camps for noon lunches. It is cold at night and usually hot and dusty during the day. Ice, snow, and boiling springs lie within a few feet of each other in many places, so that they can

be touched almost simultaneously. At two places, en route, a man can catch fish and, without moving, dip them by a swing of his line into a nearby boiling spring and cook them. At the Divide the tourist can touch water that is flowing toward the Pacific Ocean and the Gulf of Mexico; to the right of him for one and to the left of him for the other. At the Obsidian Cliff, roads are crossed that are made of broken black glass which nature made. Near by are the dams that beavers have built. Part of the road is over a pass of more than 7000 feet in altitude, with snow clad peaks always in sight. The geysers are supposed to exceed in interest those of Iceland and of New Zealand. Old Faithful is always to be depended upon to spout. The Grotto Geyser if given time will display itself. Some of them, however, cannot be relied upon and may or may not show what they can do when being watched. The Paint Pots and Mud Geysers are interesting. Some of the native bears have become so tame that tourists get near enough to photograph them. No one is allowed to injure the animals of the Park. There are myriads of wild flowers that are marvels of beauty. A steamboat sail on Yellowstone Lake adds variety to the method of travel. The Grand Canon of the Yellowstone, its superb falls, its brilliantly colored rocks and sands, its isolated pinnacles each of which has its eagle's nests, and its surrounding scenery, are magnificent. So captivated were we with the region that we lingered a week at the Canon Hotel. In Heyden Valley is a small herd of American buffalo that were a sad reminder of the thousands seen during the writer's boyhood trip across the overland trail in 1862.

ALASKA.

Returning to Livingston by coach and train we resumed our journey westward through Montana, Idaho and Washington. At Tacoma we found the tourist steamer "Queen" ready to receive us for a twelve days' trip to the beauty spots of Alaska. As in Norway, almost the entire route is protected from rough weather by island barriers. It is like sailing on rivers rather than on the sea. Islands of all sorts, sizes and kinds are passed making a perpetual panorama of changing beauty. Though much less imposing than the Norwegian fjords these have a charm of their own that is alluring. As the weather was a mixture of pouring rains and rifted clouds, through which the bright sunshine occasionally gleamed, we saw cataracts in profusion. A dozen could be seen, within an hour, pouring down from great heights into the sea. As our ship swept into some narrow bays the salmon were crowded before her in such numbers that they seemed to be walking over each other. On the shores, at some of the landings an attempt at botanizing showed the ground to be covered so deep with moss that the feet would sink out of sight into it. Trees, houses and roofs of all kinds had their coats of moss that attested continuous rainy weather. The harbor of Sitka looked to be exceedingly beautiful. Juneau had a pretty position but was less attractive. Metlacatla interested us greatly because of its history, its salmon canning industry, its mission, and its people. The Muir Glacier was the sight of sights to all the passengers. Here were immense icebergs in the making before our eyes. Our ship had to keep at a respectful distance or they would quickly have sent her to the bottom of Glacier Bay. A trip to the summit of the glacier gave us lessons in regelation, earth carving, moraine depositing, the treachery of crevasses, etc., that were more impressive than our readings of Tyndall. We learned of the immense coal deposits on the many islands passed, of the gold mines that had yielded treasures of great value, and of the rich farming and pasture lands that await future pioneers and wondered if Russia did not regret her lack of forethought when she sold all these to us for such a trifling fraction of such wealth. At Victoria, Vancouver's Island, we received a British welcome that made us feel that Johnny Bull is not so bad a neighbor after all. Following an inspection of the interesting things around Seattle and Tacoma, and after getting a peep at superb Mount Rainier we proceeded by rail to Portland, Oregon. This is the one State that Horace Greely excepted from his advice of, "Go west, young man. Go west."

191 Dean Street.

Pulsating bone swellings are almost invariably sarcomatous.—Amer.Jour.of Surg.

The Third International Congress on School Hygiene will be held in Paris, August 27, 1910. Dr. L. Dufestel, medical inspector of the public schools of Paris, 10 Boulevard Magenta, is Sceretary-general of the Congress, and Dr. Thomas A. Storey, of the College of the City of New York, 139th street and Convent avenue, has copies of the circulars relating to the congress, which will be sent to anyone upon request.

ACTION OF THE IONS PRODUCED BY RADIUM.

HEBER ROBARTS, M. D.

ST. LOUIS.

Formerly Surgeon to Illinois Central Railroad and Northern Pacific Railroad; Founder and Editor American X-Ray Journal; Ex-President Roentgen Ray Society of America; Member Academy of Science St. Louis; Member Roentgen Ray Society of London, England; Author of "Radium Light," etc.

I shall not refer to the physics of radium, in this brief article, further than is necessary to elucidate the mode of the formation of the ions from radium.

Radium is in a ceaseless state of activity by virtue of its atomic transformation. Of the energy displayed by the transformation of any amount of radium, 25 per cent belongs to radium itself in the form of the alpha particle, 18 per cent belongs to the emanation proper and consists also of alpha particles, and the remaining 57 per cent belongs to the final products of the emanation which is known as the emination, and this consists of all three types of the rays—the alpha, beta and gamma rays.

The alpha particle is a material mass of matter bearing a positive charge of electricity. It is about twice the size of a hydrogen atom, and speeds initially from the atom of radium with the velocity of 15,000 miles a second. The alpha particle cannot penetrate deeply into matter, notwithstanding its prodigious velocity, because its great size collides with atoms met in its course. The alpha particle, however, confers its positive electric charge to these atoms met in its course, ionizing them and making them conductors of elecricity.

The beta corpuscle is a negative charge of electricity—the electron; it has a size about 1-1,000 that of the hydrogen atom, and its speed is more than 100,000 miles a second. The beta corpuscle pentrates deeply into matter, and gives a negative charge of electricity to the atoms met in its course, ionizing them negatively.

The gamma ray is an impulse in ether occasioned by the sudden expulsion of the alpha and beta particles from the atom of radium. This impulse causing undulations in the ether, approaches the speed of visible light. The gamma ray is electrically neutral, but it possesses mechanical energy and pressure, and carries electrical charges to the remotest recesses of matter. This undulation of ethereal pressure is similar to light-pressure in ethereal space, which is capable of repelling from the sun particles less than 1-100,000 of an inch in diameter. The electron is regarded as identical with the beta corpuscle. The electron is infinitely smaller than the particles carried by the rays of light, and it is the province of the gamma ray to be attended with the electron. The gamma ray ionizes the atoms of matter into which it enters with both forms of electricity.

The emanation is an inert gas, and has no relation to motion or speed, but it rapidly transforms into the alpha, beta and gamma rays, which perform the phenomena just described. It is further distinctive in conferring radio activity to tissues. This conferred activity displays the phenomena of radium in so far as it discharges the alpha particle, expels the beta corpuscle and radiates the gamma ray. It possesses the property of ionizing the tissues through these rays, but its most important role is when taken internally, either by the mouth or by injection into malignant tissues. Under these conditions of internal use the emanation is slowly eliminated through the lungs and by way of the kidneys. An exposition of the nature of the energies of radium and the manner of their projection into the tissues of the body can be found in the introduction of the writer's book entitled "Practical Radium."

OSMOSIS.

After giving due consideration to the above facts, one may conclude that human tissues can be charged with anions and cations from the energies of radium, i.e., the tissues become charged with positive ions and with negative ions. The fluids of the body are electrolytes—capable of decomposition—and their energy depends upon the nature and quantity of salts in solution, and, together with the ionic charge, determine the rate of diffusion or osmotic pressure. The osmotic pressure of a substance in solution can be calculated from its molecular weight, but not accurately—as, for instance, 180 grams of grape sugar in 1,000 grams of water will have the same osmotic pressure as 60 grams of urea in 1,000 grams of water. The osmotic pressure in this solution is higher than would correspond to their molecular weight. Arrhenus explains this by the fact that electrolytes have within them free moving ions, just as in a gas the individual molecules diffuse through the mass of the gas. And just as the moving molecules of a gas inclosed in a space tend to set up in that space a pressure upon the walls proportional to the number of them so contained, so the free ions in a liquid tend to set up by their movements during diffusion a pressure throughout the liquid and against the containing wall. In the human tissue this pressure tends to drive

the ions through the pores. This osmotic pressure is proportional to the ions present in the solution.

FERMENTS.

It is a well-known fact that the activity of several digestive secretions depends on the presence of bodies known as soluble ferments or enzymes, ptyalin, pepsin, trypsin, lipace, and the like, and that they are conditioned by their environment. Their action is injured by heat and certain food products, and they are inhibited by the accumulation of the products of their activity. It will be seen later that radioactivity has a direct bearing upon the vitality of ferment bodies, and that the proteid bodies are the natural elaborators of radioactivity within the body.

It is also known that the ductless glands —thyroid, parathyroid, thymus, adrenals and pituitary body—have a direct bearing in internal secretion, and it has been shown by Dr. Lazarus-Barlo that radioactivity has a direct bearing upon the function of these glands. Dr. Henry Becton has recently reported in the British Medical Journal that the absence of Altman's granules is quite constant in malignant growths; and Professors Moore and Williams, of the Middlesex Hospital, have shown this condition to be due probably to the excessive wasting of radioactivity in the tissues of the body, other than malignant tissue, which is excessively radioactive. In this connection it is proper to note that Dr. Lazrus-Barlow found that organisms inhibited by oxygen were the same organisms that exhibited radioactivity—the pyogenic staphylococci, bacillus tuberculosis and bacillus diphtheriae.

CHROMATIN.

Drs. Ross and Macalister, of Liverpool, have recently shown in their report on "Cancer Research, an Investigation 'in Vitro' Methods," that the extrusion of chromatin appears to be a phenomenon peculiar to cancer cells. The blood of a cancer person will excite ameboid movements of leucocytes, and the plasma of a cancer person will cause lymphocytes to extrude flagillae, with a a particle of chromatin at the ends. The conclusion might follow from these observations that chromatin is a product of catabolism, but the researches made by Hector Coldwell, Esq., for the radioactivity of tissues have made it clear that these changes in the cell are due to the unbalanced ionic charges, or skotographic power, and not to an unknown "something" that aggravates the condition.

IONS AND VITAL ACTIVITY.

Professor Loeb, formerly of Chicago, and later of San Francisco, found that the contractility of tissue is not manifested when placed in a solution of urea, sugar, or albumen, because they are not electrolytes, but the contraction of tissue could be controlled even to rhythmical motion when in suitable electrolytes. The explanation of this is found in the ionic theory of solution, and this manifestation of contractility refers closely to their physical and electrical analogies,.

Certain substances, when dissolved, undergo in the process of solution a more or less complete dissociation into their constituent atoms, each of which becomes at the same time charged with negative and positive electricity. These electrically charged atoms or ions are influenced by the several radioactive radiations.

Now, it is known that the cell wall separates the nucleus of a cell body from the cytoplasm, and in a similar manner the mass of protoplasm is separated from the surrounding medium,. This cell wall is capable of retaining zymogens and ferments, but it will readily permit the passage inward and outward of those substances that have undergone ionic dissociation. It is evident that the fluids (electrolytes) with which the cell walls are bathed determine the ana and cata products of metabolism, and this ionic fluid will determine the ferment action, i.e., the cell activity.

Dr. Lazarus-Barlow was able to control with radium the action of the ovum of the ascaris megalocephala, an intestinal entozon of the horse, through all its stages until matured into the complete worm. The cells of the ovum were so controlled that they could be caused to divide slowly or rapdily according to the character of the exposure to radium.

In 1905 Dr. W. H. Allchin delivered a lecture before the Royal College of Physicians of London, in which he said: And as an explanation of the activity of the bioplasm which elaborates these bodies (enzymes and cololidal bodies), there is postulated an ionic action on the part of the cell contents and their surrounding medium where by charges of electricity of variable strength and character are brought into conflict, and from the play of ions the manifestation of vitality results.

Lowenthal (Berl. Klin. Woch., February 14, 1910) claims that the action of the emanation of radium on ferments increases the

absorbing power of the body. He believes that certain ferments which form and destroy uric acid would be activated with radium. Gudzent showed that uric acid could exist in the blood only as the monosodium urate. These substances exist in the isomeric form. One is soluble, but little stable (lactam urate); the second is stable, but little soluble (lactim urate). The latter is present in the blood of gouty persons. He further found that radium emanation is capable of preventing the transition of the less stable urate to the more stable form. Others have shown that radium will prevent over-saturation and consequent deposition of urates in the blood.

In the Middlesex Hospital there has been conducted exhaustive research work for the purpose of determining the source of radioactivity within the tissues. The specimens examined were cleaned of fat, pigment, carbohydrates, and mineral salts, and after the application of heat there remained a deliquescent material of an organic nature which retained the power of skotography—the power to affect a photographic plate. This organic material contained a ferment within the protein covering, and its radioactive properties are probably due to some vital product concerned with the transformaion of the microzyma of Dechamps. At any rate, this skotographic power is a vital one, deriving its energy from an electrical source we have not traced; but we are familiar with the means of transmitting energy which controls vital processes.

It appears from the foregoing that the function and power of vital energy is determined by the ions moving within and without the living cells, and that the appropriation of these ions by living cells is within the range of the ionizing power of radium.

5899 Cates Ave.

A sudden severe pain during ejaculation of the semen means stricture.

The administration of thyroid extract in a case of delayed union after fracture will do no harm and may do good.—Am. Jour. of Surg.

Insomnia.—Sodium hypophosphite 20 grains, in warm water or milk and water, at bedtime, is a simple yet excellent remedy for the sleeplessness of mental fatigue, or bromide of ammonium, 20 grains, thrice daily, or an alkaline draught of 30 grains of bicarbonate of soda in a tumbler of hot water.

FAVORITE PRESCRIPTIONS

Influenza.—To prevent nasal and aural complications, a small amount of the following may be introduced into the nares night and morning:

Resorcini .....gr. xv
Mentholis .....gr. ij
Petrolati .....dr. vj

If there is a dry cough, expectoration may be encouraged by the following:

Sodii benzoatis.....dr. j
Ammon. acetatis.....dr. ij
Spir. ether. comp.....*m*xxx
Syr. aurantii flor.....fl. oz. j
Codeini.....gr. iv
Aq.....fl. oz. v

M. Sig. Three to four tablespoonfuls daily.

The following may be used as an inhalation.

Mentholis .....dr. j
Tinct. eucalypti .....fl. oz. j
Aq. coloniensis .....fl. oz. iv

M. Sig. A tablespoonful in a bowl of boiling water, inhaled by means of a funnel.—Med. Press.

Intestinal Indigestion in Children. When constipation is marked, Kirby recommends rhubarb and soda of the following strength:

Pulv. rhei.....grn. iv
Sodii bicarbonatis.....grn. viij
Syr. rhei aromatici.....3ss
Aquae .....ad fl. 3iv

M. Ft Sig. One teaspoonful once or twice daily.

Or,if the child can take a capsule, the following for a child from five to eight years of age:

Tinct. belladonnae.....gtt. ij
Tinct. nucis vomicae.....gtt. iv
Ext. cascarae sagradae...grn. j-iij
Sodii bicarbonatis.....grn. iij

M. Ft. capsula No. j. Sig.: To taken at bedtime.

The medication may be continued for three or four weeks, after which time one dram of the syrup of hypophosphites (Gardner's) may be given three times a day. This may be alternated with:

Ferri et ammonii citratis.grn. xxiv
Elixiris simplicis .....fl. 3j
Aquae.....ud fl. 3iv

Sig.: One teaspoonful three times daily, after meals.—Med. Standard.

Never give opium or quinine to a person who has slight aphasic symptoms; it will tend to develop the disease.

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EDITORIAL

The St. Louis Hospitals.

On April 1st, Honorable Frederick H. Kreismann, mayor of St. Louis, signed the bill creating a new hospital department and transferring to it from the Health Department of St. Louis the management of the City Hospital, Female Hospital, Poor House, Insane Asylum, dispensaries, and like institutions that may hereafter be established. This properly gives sanitation and preventive medicine into the hands of the Health Department, and the treatment and care of the poor and afflicted into the hands of the Hospital Department.

It is gratifying and amusing to note how the new law is received. One correspondent describes it "the finest advance ever made in the history of St. Louis medicine." Another says, "despite its many defects it unquestionably stands for a tremendous advance in municipal hospital management in St. Louis." It is pleasing to note the general approval of the measure even by those who were prominent in opposing the bill during its perilous passage along its legislative course. The movement for hospital reform was started in 1905 by the presidential address delivered by Dr. John Green, Jr., of the Medical Society of City Hospital Alumni. As a result of his effort the joint medical council was organized and it has ever since been more or less active in the work of pushing legislation.

The fight was characterized by a small but active opposition in the profession whose actions were so palpably selfish as to defeat their purpose and to serve as a boomerang. At the various public hearings and discussions there was nothing more calculated to influence the minds of the city fathers in favor of the bill than the opposition of office holders and beneficiaries under the old laws. Although the large majority of the physicians were in favor of the law, it is regrettable that the local profession lost such a golden opportunity to appear as a united, entirely harmonious body. It would have meant so much more for them in future legislation. No doubt much of the opposition was due to a lack of appreciation of the motives behind the bill, after a very superficial study of the bill itself. While the laws have been a long time before the profession before their enactment, they have steadily gained support so that now the opponents are inclined to quietude and there is a general disposition to approve and give the laws a trial.

The management and control of the hospitals will be under a board of six citizens to be appointed by the mayor and approved by the council. The mayor will be president ex-officio of the board. He has expressed his intention of appointing three physicians and three laymen. No two members of the board shall be connected with the same medical college. This latter is an important provision and allows equal opportunity and limits abuse of privilege. This board appoints an executive officer known as the hospital commissioner who serves at a salary of $5,000. The members of the board meet in weekly session and receive a nominal salary of $300. It is provided that the business conduct of the various institutions shall be under the immediate supervision of superintendents whose duties shall be entirely non-medical and who shall serve under the general supervision of the hospital commissioner. Employes are appointed by the hospital commissioner on recommendation of the superintendent under whom they are to serve and subject to approval by the Hospital Board. One especially noteworthy provision is that any employe may be dismissed at the pleasure of the Hospital Board for the good of the service and without the necessity of preferring charges and conducting a trial.

The care and treatment of patients is under the authority, direction and control of a visiting staff whose number shall be determined by the Hospital Board and shall include the various specialties in medicine as the board may ordain. Any legally qualified physician or dentist residing in St. Louis or St. Louis county is eligible for membership on the visiting staff "after investigation of such character as will determine to the satisfaction of the board the fitness of the applicant for the position to which he aspires." This is an elastic provision and depends for efficient operation on the character and personnel of the Board. It may or may not include competitive ex-

amination. Appointment on the visiting staff is for two years with the privilege of re-appointment on the record of service or after examination or both as the board may direct. The visiting staff is an advisory body to the Hospital Board and will work under rules and regulations laid down by the Hospital Board. The resident staff is composed of resident physicians who must have had a minimum hospital service of two years; resident assistant physicians who must have had at least one year's hospital experience, and internes who must be legally registered physicians. All members of the resident staff are appointed by the Hospital Board on recommendation of the visiting staff after competitive examination conducted by the visiting staff. Resident physicians receive $100 per month; resident assistant physicians $50, and internes nothing. All receive board and lodging. Undoubtedly the positions on the resident staff will be sought for by physicians seeking post-graduate opportunities under the competent visiting staff. It is expected that the matter of salaries will be readjusted after the Hospital Board makes recommendations to the municipal assembly. This arrangement for a visiting and resident staff undoubtedly means better and more experienced care of the sick poor. Investigation has brought out grave defects in this regard under the old laws. Incident to this reform the widest opportunity possible under the State Constitution is given for clinical education and advantages. It is provided that the visiting staff shall instruct the resident staff and at such instruction students in attendance at the local medical colleges and graduate physicians may be present. In order that the privileges thus granted may not be abused a safeguard is embodied in the bill which will make the amount of clinical material available depend on the tact and diplomacy of the physicians appointed on the visiting and resident staffs. The safeguard also respects the rights of the patients who are not really objects of charity, but are mostly the result of the defects in our social system. Therefore the provision, "no patient shall be made the subject of a clinic, lecture or demonstration, who shall express his objection thereto or who would be injured thereby",is a stimulus for the practice of the highest ideals by the visiting staff. The clinical opportunities will no doubt result in a healthy competition among the medical colleges to get as large a representation as possible on the visiting staff. Because of the fact that the physician without college affiliations will have an equal chance of membership, there will result a development of local talent heretofore independent for which the colleges will compete in strengthening their faculties. Another advance apparent in the bill is the failure to recognize dogma in medicine. A "legally qualified physician" may mean regular, homeopathic or eclectic. The advantages of this are illustrated in the Cook County Hospital which has separate staffs of the various schools and a consequent annoying conflict.

Properly organized and operated the new hospital department should make of the public hospitals the biggest post-graduate institution in the West. There is no reason why the visiting staff, composed of all schools and colleges should not be thus affiliated in building up St. Louis as a post-graduate center to the advantage of all the local colleges.

Politics in the baser form will be as much eliminated as is the case in the public schools. Total elimination of politics in a government service is an idle dream which will be evident to practical minds. We need in all government service, not annihilation of politics, which would mean destruction of government, but we need regeneration. Nothing would help more to this end than the active participation in practical politics of those so-called "better citizens"who are too content to remain ignorant as to political methods, and too willing to criticize and condemn what is largely a result of their own failure in civic duty.

The new law changes the name of the poor house to infirmary, which is a suggestion made by Mayor Kreismann. Instead of insane asylum we will now refer to its new name—sanitarium.

The city government has in effect said to the local profession: "Take the public institutions and see what you can do with them." The wish of the profession which has been urged for twenty years, has been granted. The success of the new law will be an indication of the character and ability of the St. Louis profession.

Pursuant with the carrying out of this law the following have been appointed to the Hospital Board: B. F. Gray, Jr., C. L. Swartz and E. N. Tolkacz for four years, and Dr. Ralph Thompson, Dr. W. J. Harris and Dr. J. B. Shapleigh for two years. These gentlemen are working out the detail of the new system, searching for the best commissioner, and devoting every energy to insure success for the new system from its inception. The speedy resignation of various superintentends would seem, to an outsider, to complicate the work, but if

so little public spirit actuates the holder of such a position it is probably well that he go and that speedily.

The St. Louis Medical Society has voted its thanks to various individuals for their active interest in seeing this bill successfully carried through, but it seems to have overlooked the one man who has stood by the move from its inception, who has by very determination made it go. The one man to whom thanks are due is Dr. John C. Morfit. It will be a regrettable matter if Dr. Morfit is not in a position to further advise and direct. We expect wisdom from the board, and we will not meddle, but in hunting for a man there is one man for this one place, and he can be easily located.

The St. Louis Medical Society's Smoker.

To call so successful an evening's entertainment as that which the society enjoyed on the evening of April 30th, "A Smoker" seems a little incongruous; the entertainment was so highly artistic in its every feature and the burning of tobacco was so indifferent an inccident at the end of the real features that we doubt whether its absence would have been noted.

The St. Louis Medical Society has established a precedent in its method of filling the fifth Saturdays, which are not provided for in the laying out of scientific work, these social evenings have so fixed themselves as a success that we doubt if there are members of the body who would consent to the abandonment of the plan even were they offered at the society's expense instead of being a matter of the hospitality of the officers as is now the case.

The program at this last "smoker" was opened by an illustrated address by President Schwarz, who spoke on the Columbian Exposition and recalled many of the artistic beauties of that most wonderful exposition to those of us who had been forgetting them. The musical numbers on the program were contributed by Mrs. Walter E. Handley, Mr. Francis Miller, Dr. Augustus Milner, Mrs. Willard Bartlett and Dr. L. D. Kelly, with Mrs. G. L. Gold as accompanist. We doubt if St. Louis has often heard a more artistic program. One might mention each soloist and each number as something worthy of especial comment and not go beyond the truth; to the writer, if there was a best, Mrs. Bartlett's exquisite interpretation of Charminade's "Summer" would have to be selected as that best.

A recess in the midst of the musical program was had for the presentation of numerous kindly caricatures of members who have been more or less active in the work of the society. The drawings from which the slides were made must have been the work of one with exceptional ability in that line of work and one with a keen sense of humor.

Refreshments were served in the parlors at the close of the program and an hour spent with cigars and conversation. This "rubbing shoulders with your fellows" is proving its value and is a genuine privilege.

The society is greatly indebted to those who so kindly contributed to our evening's pleasure; the profession appreciates that they gladly gave us that which has a decided money value and is not given except among friends; we believe that they may count on the profession as friends, stronger, better friends because of this evening.

ST. LOUIS ITEMS.

The local committees having in charge preparations for the June meeting of the A. M. A., which is to be held in this city, are energetically at work, and it is believed that every contingency is being provided for and that the meeting is to be a tremendous success from all points of view.

Drs. Walter C. G. Kirchner and C. H. Shutt, superintndent and assistant superintendent of the City Hospital, have tendered their resignations, the same to be effective June 1st. Both of these gentlemen will sail early in the summer for Europe, where they will spend some time in medical work at various of the medical centers. Dr. Oscar Elbrecht, superintendent of the Female Hospital, has also resigned and will, we understand, resume private practice.

Tulane Reunion.—Acceptances have been received by the local committee from numerous Tulane alumni for the Tulane banquet which is to be held here during the A. M. A. meeting and it is believed that the occasion is to be one to be remembered. There are a number of Tulane men in St. Louis, all prominent in the profession, and with the assurance that such men as Matas, McMurtry, Runyon, Dock, Evans and others are to be present it seems hardly necessary to urge others to make their plans to include this function. Reservations should be made without delay through the chairman of the committee, Dr. H. J. Scherck, Century Building, St. Louis.

Made in St. Louis Exposition.—An exposition which will be at once educational to the home people of St. Louis and to the merchant buyers of the trade territory tributary to this city will be held in the Coliseum in St. Louis the third week in August next. Its industrial and commercial importance lies in the fact that it will be a representative exhibition of all the leading lines of goods made in St. Louis or under a trade-mark controlled exclusively by a St. Louis firm. The extent of such an exhibition can be better understood when it is realized that the manufactures of St. Louis are divided into nearly one hundred lines for statistical purposes by the census officials and that these divisions are subdivided many times in the different articles produced. The production of the St. Louis industrial district is approximately a half billion dollars annually, and this in itself is evidence of the extent of the show to be given in August.

The American Urological Association will hold its two days' session on Monday and Tuesday, June 6 and 7, of the same week of the A. M. A. meeting, at the Jefferson Hotel. It is expected that this meeting will be largely attended and by men of much prominence in this line of work, from all parts of the country. The membership of the association has grown to more than three hundred, although it has not yet reached its tenth anniversary. The annual dinner, usually a most delightful and enjoyable affair, is to be held this year on Monday evening, 8 o'clock, at the Jefferson Hotel. Following the scientific session of Tuesday afternoon, at 5 o'clock, the visiting members are to be given an automobile drive through the business and residence parts of the town, ending at Glen Echo Country Club, for a collation; after which they will be brought back to town in time to attend the various evening functions arranged for. On this occasion the visitors will be the guests of members of the local profession who are interested in seeing the visitors have a good time while here.

Washington University—Confirmation of the report that the medical department of Washington University was to be greatly strengthened through a large endowment for the purpose has come during the past week. Through the generosity of a group of wealthy men, among whom Adolphus Busch, Robt. Brookings, W. K. Bixby and Edward Malinckrodt are mentioned, $5,000,000 are available and will be used to make the school one to rank with the best in the world. The first announced change is that the faculty is to be strengthened by the addition of Dr. George Dock, formerly of the University of Michigan, now of Tulane University, who will direct the Department of Medicine; Dr. John Howland, now of Bellevue Hospital Medical College, New York, to be professor of pediatrics; Dr. Eugene L. Opie, pathologist for Rockefeller Institute for Medical Research, to be professor of pathology, and Dr. Joseph Erlanger, physiologist of the University of Wisconsin, to be professor of physiology. This is the most decided step of an educational character that any St. Louis institution has ever been able to announce, and it means wonderful things for the St. Louis profession, for St. Louis as an educational center, and for the importance of our city as a metropolis.

The Indiscriminate Use by the Laity of Coal-Tar Anodynes.—The ease with which anyone can on his own solicitation obtain these powerful poisons is appalling. Patent medicine advertisements actually force these agents upon the public. Druggists promote their consumption by counter-prescribing and the pushing of "just-as-good" preparations of their own; and the careless doctors who use these agents in lieu of and without treatment of the cause of the complaint are aiding and abetting this great evil of our times. It must not be understood that I condemn the use of these agents altogether,. Properly applied they are a blessing to humanity. It is only when they escape this control that they become a blight and a curse.—Dr. Bernard Fantus.

The Heart in Tuberculosis.—Dr. Pottenger has recently pointed out (Archives of Internal Medicine, Oct., 1909) that a relatively low blood pressure exists in tuberculosis, especially in advanced cases, owing to the effect of the toxins on the vasodilators, the weakness of the heart muscle and general wasting. He declares also that myocarditis is a condition frequently encountered in advanced tuberculosis and one which, if recognized, will yield to appropirate treatment in many cases. The use of digalen, as a reliable form of digitalis, here suggests itself. The restoration of venous tone exerts a favorable influence upon metabolism and nutrition, with obvious benefit to the patient. The suggestion is one of great importance and should be put to the test. No doubt the cure of cases of tuberculosis which are not far advanced can be materially hastened with the aid of digalen, while the advanced cases may be strikingly benefited.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

Handbook of Therapy. Cloth. Pp. 421. Chicago: American Medical Association, 1910. (Price, $1.50.)

The Therapeutic Department in The Journal of the American Medical Association has been commented on so often and so favorably that the association decided to reprint, in book form, the articles which seemed to be of most practical value to the general practitioner. Conditions governing therapeutic requirements are stated as clearly and concisely as possible. Special care has been taken to avoid unusual drugs, and with rare exceptions the formulas given are combinations which can be easily compounded by any pharmacist.

Besides the articles on therapy, the book contains a list of the articles accepted by the Council on Pharmacy and Chemistry for inclusion in new and nonofficial remedies, as well as tables and compilations of miscellaneous data.

The book is of convenient size for the pocket or the satchel.

New and Nonofficial Remedies, 1910. Containing descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1910. Paper. Pp. 256. (Price, paper, 25 cents; cloth, 50 cents.)

This is the 1910 edition of the annual New and Nonofficial Remedies, issued by the Council on Pharmacy and Chemistry of the American Medical Association, and contains descriptions of all articles approved by the Council, up to December 31, 1909. There are also descriptions of a number of unofficial non-proprietary articles which the Council deemed of value. The action, dosage, uses and tests of identity, purity and strength of all articles are given. As an illustration of the scope of the book, attention is called to the following: The articles on arsanilic acid and its derivatives, page 35; on phenolphthalein, page 152, and on epinephrine, page 73, indicate the effort which the Council is making to have new remedies known by their correct names. The description of medicinal foods, page 120, should put physicians on their guard as to the small value of such products. Particular attention is called to the description of serums and vaccines, page 169. Since our knowledge of the therapeutic value of new remedies is still largely in the experimental stage, the statements which appear under each proprietary article are based largely on the claims made by those interested. On the other hand, on page 56 under creosote carbonate, is a note on the claims of non-toxicity often made for certain remedies. A similar caution in reference to the claimed harmlessness of intestinal antispetics appears on page 41 under beta-naphthol benzoate.

The Diseases of Infancy and Childhood. Designed for the use of students and practitioners in medicine. By Henry Koplik, M. D., Attending Physician to the Mt. Sinai Hospital, New York, etc. New (3d) edition, enlarged and thoroughly revised. Octavo, 944 pages, with 204 engravings and 39 plates in colors and monochrome. Philadelphia and New York: Lea & Febiger, Publishers, 1910. (Cloth, $5.00 net.)

The sterling qualities of this volume both as a student's text-book and as a complete practical work of reference for the physician have been widely appreciated. The author has left nothing undone to make this new edition thoroughly represen tative of the best and latest knowledge. Every line has been revised, much has been eliminated, more has been added, and many chapters have been recast or rewritten. The advances in pathology, diagnosis and treatment in the last few years have clarified many hither to obscure points that will be found well presented in this new issue. Among the many changes of high interest and importance may be mentioned the improvements in the diagnosis and treatment of the infections, the latest advances in infant feeding, the management of gastric and nervous diseases, including the new treatment of meningitis, the chapters on cystitis and pyelitis, and the new sections on tuberculosis, idiocy, dwarfism and neurotic conditions. A feature has been made of improved methods of examination and therapy. As young children cannot aid the diagnostician by describing their symptoms, much depends on their expression. Accordingly the highly artistic and life like drawings for which this work is notable are a very practical aid. Many new engravings and plates of this character have been added. In a word, the book has been so thorougly revised that the changes and improvements make it well worth securing even by those who have a previous edition.

A Treatise on Fractures and Dislocations. By Lewis A. Stimson, B. A., M. D., Professor of Surgery in Cornell University Medical College, New York. New (6th) edition, thoroughly revised. Octavo, 876 pages, with 361 engravings and 65 plates. Philadelphia and New York: Lea & Febiger, Publishers, 1910. (Cloth, $5.00, net.)

This new edition of a very important book is of interest to general practitioners as well as surgeons, since the injuries cov

ered in its pages are universal in occurrence, and demand immediate treatment by reason of their urgency. The wide acceptance of this work as the leading authority is shown in the demand which exhausts frequent large editions. Dr. Stimson has improved this renewed opportunity by revising his work to the latest date, making it representative of his own enormous experience, and including the accepted views of specialists throughout the world, so that his book is cosmopolitan in the knowledge presented. It is unique in another important point, namely, that it covers dislocations as well as fractures, two cognate forms of injury best studied together. Rare as well as common lesions are included, so that the work is encyclopedic in scope. As malpractice suits are especially to be guarded against in treating these injuries, every medical man can best protect himself by following Stimson, the authority accepted, not only by his own profession, but also by the courts. The new edition has been increased in text, and has been enriched with many additional engravings and plates.

All restaurants, bakeries and meat markets in Birmingham ,Ala., must be equipped with screens or the proprietors of such places will be subject to arrest. The Health Department of the city will begin enforcing the law, which provides that all such places shall be equipped with screens during the summer months. The fruit stands must be covered with gauze.

Morphia in Cardiac Disease when Compensation Fails.—There is no drug like morphia for the strengthening of an acutely weakened and dilated heart. How is it that so many physicians think of morphia as a heart depressant? All the evidence points the other way. Morphia strengthens heart action, and if given subutaneously does it quicker and more reliably than any other known drug. The patient with uncompensated heart disease is laboring like a runner at the finish of a race. Morphia gives his heart the rest it craves, the system catches up and we gain the precious time needed for the exhibition of the slower remedies. There is no danger of producing morphia habit. The drug is needed only for forty-eight hours at the most, yet in my experience the very men who are far too ready to give morphia for long standing of oft-recurring pain when morphia habit is a serious danger, withhold the drug in acute heart failure when it is a life-preserver and free from drawbacks.—Dr. Richard C. Cabot.

CORRESPONDENCE

MECHANO-THERAPY IN WHOOPING-COUGH.

San Francisco, Cal., April, 1 1910.

Editor Medical Fortnightly:

The following simple method has arrested the paroxysms of whooping-cough in a number of patients in from three to seven days:

Place a pleximeter upon the spinous process of the 7th cervical vertebra and strike the pleximeter a series of moderate blows with a percussion-hammer. The number of blows is of little moment, but the blows must be as strong as the child can tolerate without flinching. Some of the mothers accompany the blows with a nursery rhyme or song to interest the child. In the absence of a pleximeter and percussion-hammer, a strip of linoleum and a tack-hammer will suffice. To avoid cutaneous irritation, cotton may be interposed between the spinous process and linloeum. Each seance during the interparoxysmal period should last five minutes thrice daily and the harmless method may be executed by the mother or nurse. The undersigned is desirous of collecting reports on this method of treatment from his colleagues and to test the efficiency of the treatment, it would be well to note the number and severity of the paroysms before and after treatment in each patient.

The undersigned will explain the rationale of the method in a contemplated contribution, and will appreciate the reports sent to him by his conferers.

This method has also succeeded in some cases of laryngismus stridulus.

ALBERT ABRAMS, M.D.

246 Powell street.

Sale of Radium Permitted in Austria.—The sale of radium salt has been now authorized in this country, but the government has taken the trade into its own hands The price of 1mg. (1-60 of a grain) has been placed at 400 kronen, or $80, but smaller quantities may be purchased. Only the barium chlorid of radium can be had, in a strength of 5, 10 and 25 per cent. It is put up in small brass capsules, one wall of which consists of lead; here the salt is deposited and an opening covered by a mica plate permits the use of the radium for therapeutic applications, without opening the cell. A hall-mark certifies the strength and weight of the substance. Already many physicians have availed themselves of the opportunity of obtaining radium cells.

MEDICAL PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

SURGERY.

C. W. HEPBURN, M. D.

Flat-Foot and Treatment.—In a contribution to Journal-Record of Medicine for Nov., 1909, Dr. Theodore Toepel briefly touches upon the important points of the anatomy, pathology, etiology, symptoms and diagnosis of flat-foot and then describes more fully the different methods of treatment, including his own experience in this line of work. The points he emphasizes are that flat-foot in its surgical sense is a compound deformity, in which the abnormal relation between the foot and the leg, causing the improper distribution of the weight and the strain and disuse of normal function, is of vastly greater importance than the depression of the arch which has given the name to the disability; that the exercise treatment of weak and improperly used feet is admitted by all to be rational and desirable that the plate that supports the foot must be an accurately shaped brace, made from a cast, and this should never be left to the shoe fitter at the shoe store; that severe operations should be resorted to only when milder measures after due trial, have failed, for comparative relief will, in the great majority of cases, be obtained by the milder remedies in about six or eight weeks, whereas several months are required after any cutting operation upon the tarsal bones before the foot may with impunity be freely exercised, and that the weak and deformed foot can be cured, but only by the application of the simple principles that any mechanic would apply to a disabled machine whose structure and use were known to him. In other words, there can be no permanent cure of weakness and deformity unless normal function is regained, or unless effective treatment has this end in view. Five plates illustrate the text.

The Chauffeur's Fracture.—In Medical Record for March 12, 1910, Dr. William S. Thomas calls the chauffeur's fracture a badge of carelessness, and tells how it occurs from the back-kick of the automobile crank-handle and also how it may be guarded against. The fracture is usually either transverse or oblique into the wrist-joint. In the latter case it is the lower outer corner of the radial head which forms the fragment. Variations are seen as comminuted and incomplete fractures, but there are comparativly few cases showing marked radial displacement of the hand or severe silver-forked deformity. Where the lower outer portion of the radius is found detached it is evident that it has been avulsed by the wrenching of the hand which grasped the handle. The few writers on this subject are divided in opinion as to whether the mechanism of the fracture be one of impaction through the palm, as in the ordinary Colles' type of injury, or one of tearing off a fragment of bone by severe ligamentous wrenching. It seems clear to the author that most of these fractures are by caused by avulsion. As is so often seen to be the case, bone is torn rather than ligament where both have been subjected to the same strain. Here the violence is evidently transmitted through the palm in a direction upward and outward while the thumb and fingers encircle the handle. The back-kick wrenches the hand violently in the direction of abduction and extension. So mild are the symptoms in many of these cases that they are frequently considered to be sprained wrists, and do not reach the surgeon for several days. As to treatment, immobilization of the forearm and wrist in anteroposterior splints is sufficient in the majority of cases. The fingers are left free and the patient is instructed to move them freely, for by so doing a return to the normal use of the hand will be hastened. Massage by one skilled in the art is of prime importance and should not be omitted. It may be begun immediately. The prognosis is good, as would be expected in a class of cases occurring in young active adults where the deformity is but slight. The patient is usually back to work in three weeks with a wrist-band to be worn for a week or two after release from the splints.

Tuberculosis of the Kidney, with Report of Cases.—Dr. Henry H. Morton contributes to Medical Record for March 12, 1910, an admirable article on tuberculosis of the kidney, illustrated by two cuts in the text and a colored supplement graphically picturing six of the diseased kidneys removed from as many of the cases reported. The prognosis of tuberculosis of the kidney, if treated expectantly, is bad. The only treatment which should be considered in primary tuberculosis of one kidney is an early operation for its complete removal before the other one has become involved. The great advancement in the modern treatment of tuberculous kidney is due to Nitze's invention of the cystoscope. In former times it was not possible to determine the func-

tional capacity of the other kidney, and the mortality of nephrectomy was very high. According to the statistics collected by Kuster, the mortality of 223 nephrectomies through the loin ranged from 36 to 52 per cent. Since the introduction of modern methods of diagnosis, by which the capacity of the other kidney can be determined, Watson and Cunningham has collected the statistics of 292 cases, with a proportionate mortality of 8.8 per cent. These statistics have been further analyzed by Watson and Cunningham, showing as follows: 54 per cent of patients were cured; 19 per cent died after convalescing, half from the disease, the others from other maladies; 36 per cent showed great improvement, but not a cure. In the presence of tuberculous lungs, a nephrectomy is only contraindicated when the destructive process in the lungs has so far advanced that it is evident that a subsequent healing of the lungs cannot take place. In the presence of a tuberculous bladder, clinical experience shows that a beginning bladder tuberculosis heals speedily after extirpation of the diseased kidney, and tuberculosis of the testicle and prostate are also frequently followed by healing, after the diseased kidney has been removed. If both kidneys have become infected, it is evidently too late for anything but palliative treatment. In cases in which the development of pyonephrosis and sepsis threaten the patient's death, life may be prolonged by a simple nephrotomy, emptying and draining the collection of pus in the kidney, which must be left in to carry on its necessary function.

Report of a Case of Cholecystotomy—One Stone Weighing 23 Grams, the Whole Number Weighing 55 Grams.—Dr. Homer H. Wheeler reports this case, in Indianapolis Medical Journal for March, 1910, for the purpose of showing the size that a gall-stone may attain and to bear testimony to the frequent assertion that gall-stones are the principal causative factor in producing cancer of the liver. On August 22, 1909, when first seen by Dr. Wheeler, the patient, a woamn, aged 67 presented all the symptoms of obstructed common gall-duct. Examination showed the heart and lungs to be normal. The abdominal organs were normal, with the exception of the liver which extended down three inches below the costal border line and appeared a little more resisting than normal. The gall-bladder could not be palpated, being completely covered by the lower border of the liver. The following day the abdomen was opened by a vertical incision through the outer border of the right rectus muscle. On entering the abdomen, the right lobe of the liver was found to over lap a mass of omental adhesions firmly binding together all tissues contiguous to the gall-bladder. The task of separating the adhesions made the liberation of the gall-bladder, which was found to be very large and nodular, a tedious process. The under surface of the liver surrounding the fissure for the gall-bladder was harder than normal and somewhat nodular. After packing around the gall-bladder thoroughly, the fundus was opened and found to be completely filled with choleliths. Two or three small stones were first removed, when the large one weighing 23 grams was encountered. It was removed after some difficulty, being partially imbedded in the gall-bladder and partly in the cystic duct. The second stone in size was imbedded in the cystic duct and extended down into the common duct. This stone was also extracted after some difficulty. The remaining stones lay in the common duct and were removed quite easily by the aid of a Mayo spoon. A large tube was sutured in the gall-bladder for drainage and a strip of gauze packed around the bladder and duct as a precautionary measure against leakage. The abdominal wound was closed in layers and the patient put to bed. The patient suffered quite a shock, but rallied nicely after a few hours by the aid of the proctolysis of normal salt solution and hypodermics of strychnia and morphia.

The Diagnosis of Surgical Diseases of the Kidneys.—Dr. R. P. Campbell says, in Montreal Medical Journal for November, 1909, that in former times, the physician and surgeon have, in the main, confined their attention to two chief methods of examination, abdominal palpation on the one hand and chemical and physical analysis of the urine on the other. No one can call in question the service which each method has rendered and continues to render us in the diagnosis of kidney disease, but their shortcomings and limitations were many. By such methods it has been impossible to differentiate bladder and renal disease, and depending upon them there are few surgeons who, directly or indirectly, have not come in contact with cases dying subsequent to operation from renal insufficiency, i.e., uremia, cases which perhaps possessed but a single kidney, or at all events but a single healthy organ or even less than this, but where an operation in

the dark had removed what little healthy tissue remained. Therefore he treats of the more elaborate and exact methods of today, which consist of (1) the use of the simple cystoscope, (2) the use of instruments by means of the cystoscope, e.g., the ureteral catheter, wax tipped catheters, etc., or the use of instruments of inferior precision, such as the various sergegators, (3) the estimation of the so-called functional efficiency of the kidneys by means of examination of the blood and of the urines collected from each kidney separately and simultaneously, (4) the use of the X-rays, (5) the use of the X-rays in combination with ureteral catheterization, X-ray bougies, pyelography, etc. All these are discussed, but especial attention is called to the use of the ureteral catheter and the so-called functional diagnosis. In closing the author repeats: "We do not for one moment mean that our only reliance is in such methods. The older methods are as important today as ever they were. A careful history, a careful physical examination, careful palpation and inspection of the abdomen and external genitalia are, in the light of our present knowledge, even more important than formerly, and it must be confessed that occasionally all our diagnostic aids may fail us. (This, as far as it concerns the ureteral catheter, is usually the result of bladder or urethral diseases.) Nevetheless we do feel that today it is unjustifiable that a patient should die from uremia, renal insufficiency, following a surgical operation, unless we have endeavored to discover how much secreting tissue he has to carry him through."

Early Diagnosis of Cancer of the Uterus; Operative Technic.—Pennsylvania Medical Jorunal for November, 1909, publishes an interesting paper on uterine cancer by Dr. Thomas S. Cullen. Cancer of the uterus is most common between the thirty-fifth and fiftieth years, but it is occasionally noted in patients under twenty-five years of age. Any bloody and watery vaginal discharge, not definitely accounted for, demands immediate local examination. If an abnormal lesion is found, and doubts arise as to malignancy, a wedge of the suspicious area (about one cm. deep and two or three mm. broad) should be cut out, dropped at once into a ten per cent formalin solution and sent to the pathologist. From no other part of the body is it possible to so easily obtain material for diagnosis and the general practitioner and surgeon have no excuse for failing to diagnose cancer of the uterus within a week after the patient comes under observation. Wertheim's operation, which consists in the removal of the uterus, appendages and parametrium and often also of the pelvic lymph glands, seems to offer the best results. It is now generally recognized that the greatest dangers of the radical operation are due to the shock that immediately follows. More recent experience has shown that it is possible to lessen this shock in two ways (1) by shortening the duration of the operation, (2) by keeping the patient warm while she is on the table and afterwards. With the abundant flood of "sunshine," as furnished by Kronig's light, the operator can often save from fifteen to thirty minutes. The chief bleeding encountered in the radical operation is from the vaginal plexus of veins. The long, short-curved, Wertheim forceps enables one to clamp and cut the vessels with great facility, thereby often saving another ten or fifteen minutes. By means of Kronig's electrically heated table the patient can be kept at an equable temperature and usually leaves the operating room in an infinitely better condition than when the ordinary table is used. The patient is cleaned upon the regular table, and after being thorougly dried is placed on double blankets laid over the electric table. It is always necessary to have a special nurse or assistant guard against any danger of burning the patient, and the current should be turned on and off as necessary in order that a reasonably equable temperature may be maintained.

The chief State medical inspector of Louisiana announces that fully 100,000 tubes containing a solution of nitrate of silver will be distributed throughout the State to doctors and midwives for use in every suspicious case in their obstetrical practice.

Leprosy in Japan.—According to official reports, there are in five lepers' hospitals in Japan 847 lepers, of whom 169 are women. These lepers are distributed as follows: Tokyo, 234; Osaka, 232; Aomori, 45; Kagwa, 116, and in Kumamoto, 120. These five hospitals were opened on April,1 1909.

Rabies Scare in New York City.—Excitement has been caused in the Elmhurst section of Greater New York by a case of rabies which developed in a dog. The animal before being killed bit ten other dogs, four children, and one man. Last summer the Board of Health agents killed in Manhattan 217 dogs, in Brooklyn 170, in Queens 256, in the Bronx 140, and in Richmond 250.

AMERICAN MEDICAL ASSOCIATION
meets in St. Louis, June 7 to 10.
"Come with us and we will do thee good."

THE MEDICAL FORTNIGHTLY

A Cosmopolitan Biweekly for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scentific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

Advertising forms close on the first and fifteenth of each month. Time should be allowed to submit proof for correction. Advertising rates on application.

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Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

Editorial offices in St. Louis and St. Joseph, where specimen copies may be obtained, and subscriptions will be received.

Contributions and books for review should be addressed to the Managing Editor, 319 and 320 Century Building, St. Louis, Mo.

MEDICAL MISCELLANY

An Outdoor Public School.—Arrangments for an open-air schoolroom experiment in New York City have been completed, and the first of the twenty provided for in the appropriation will be opened within a few days. The room selected for the experiment is on the second floor, overlooking the court around the school is built. On one side windows extending from floor to ceiling will make the room entirely open to the air. Outside these windows a good-sized balcony overlooks the court, on which at intervals the pupils will have light gymnastic exercises. Regular school seats, such as are used in the other rooms, will be supplanted by more comfortable benches. For the stronger children there are separate chairs and desks of varied heights and sizes to accommodate the children of various ages. Besides these there are reclining seats, much like steamer chairs, made of canvas stretched on wooden frames. Nourishing food and warm wraps will be supplied to the pupils. The schools are intended for anemic children, not for those suffering from tuberculosis.

Treatment of Hydrocele.—A new method of treatment for hydrocele, similar to the old one by injection of iodine, and with which the author claims to have obtained excellent results, is described by Marcozzi in Les Annals des Maladies des Oragnes Genito-urinaires. This consists in introducing small fragments of magnesium into the tunica vaginalis after tapping the hydrocele, the irritant action and slow absorp tion of the metal effecting a cure. The magnesium is first washed in ether and then boiled in distilled water. After puncturing the sac, the cavity is washed out with warm water, and a small quantity of fluid left behind to prevent the walls of the sac from coming in contact with each other. About a dram of the fragments of the metal are then introduced into the sac through the cannula. The water is next removed and the scrotum suspended. At the end of fourteen days the magnesium will begin to absorb. A cure usually results without pain, swelling, inflammation, or even a rise of temperature.

The Comet.—The comet so long heralded, wheeling at last from that trackless void where for three-quarters of a century unseen it kept its appointed path, has swept into our ken. If the waterfowl, winging its flight to its sheltered nest while the heavens still glow with the splendors of the dying day, has a lesson for our hearts, what a message does this visitor write in flaming characters across the sky? Where has it been so long sailing, that argosy of light? To what unchartered seas will it again turn its flashing prow? What oceans has it crossed? What other cratf, fire-wreathed from stem to stern, has it spoken on its way? What isles and capes and headlands aflame with the beacon lights of God has it passed? Not once by towering surges of fiery billows, not once by tryannous blasts of khamsin winds racing from the fields of space, was it driven from its course. Out of its haven, years ago, it steered into the deep; under the hand of its unerring Helmsman, it has put into port again. It speaks of immensity, of eternity, of God. Many will correctly interpret the comet's mes-

sage. Some, perhaps, even in this scientific age, will gaze upon the portent with a secret dread, and see it shaking from its horrid locks pestilence and war. The astronomer who sweeps the heavens not merely with his telescope, but has a brain and heart to understand and feel, as he thinks of those silent, fathomless abysses whence the visitor comes, may exclaim with Pascal: "The silence of those boundless, infinite spaces terrifies me."—America.

Investigation on the Dwellings of Tuberculous Patients.—Dr. Burkhard has recently been investigating the condition of 250 dwellings inhabited by tuberculous laborers in an Austrian city. The 250 lodgings had only 487 sleeping-rooms. The number occupying each lodging varied between 2 and 13. Sometime 6 or 8 persons lived in a lodging consisting of one room only. The dangerous conditions are vividly illustrated by the fact that of the 292 positively tuberculous persons, 93 slept with other persons in one bed; among those thus exposed to infection were especially children. Bedridden patients were often found accommodated in the kitchen (in 25 per cent) or in a dark corner of the room (18 per cent). There was no knowledge how to deal with tuberculous sputum. Children were found playing with sawdust from a spittoon used by tuberculous persons. The publication of this painstaking exact investigation has caused much excitement, but it shows where the fight against phthisis has to be pressed hardest. Similar conditions prevails in all cities where tuberculous laborers live. The primary source of infection consists of overcrowding and slums.

Antimeningitis Serum.—After five years of exhaustive experimental work and extensive clinical trial, the Rockefeller Institute has perfected a serum for the treatment of epidemic cerebrospinal meningitis. Antimeningitis serum is now placed on the market by H. K. Mulford Company who, with their characteristic progressivenesss, announce that they are prepared to supply it from their various branch houses as well as from Philadelphia. In the pandemic of 1904-8 the serum was supplied by the Rockefeller Institute to clinicians all over the world. The mortality of cases in which it was used was less than 25 per cent, that of cases in which it was not used about 75 per cent, the percentage being practically the same everywhere. Now that the serum can be obtained more promptly it will be possible to administer it earlier in the disease, and it is safe to predict that this will result in a still further education of the mortality. More than one thousand cases have been reported, the beneficial effect of each injection being dwelt on by all who have used the method. The serum is supplied in packages the entire contents of which have been sterilized. Each package contains two syringes of 15 c.c. each, being the dose usually administered to young children while for adults, or for malignant cases, 30 c.c. (2 syringefuls) are to be injected at one dose. With each package is a special needle for puncturing the spinal canal. The needle is made of soft-tempered metal which will not break, and is given sufficient stiffness by a special stylet. This stylet fits into the needle and is of exactly the same length. The end is beveled so that when it is fitted into place the bevel corresponds to that of the needle point, making one smooth surface. When the stylet is rotated its point clears the lumen of any accidental obstruction. This needle serves both for drawing the spinal fluid and for the injection of the antimeningitis serum, being left in position during the entire operation. When as much fluid as possible has been drawn off, the syringe is attached to the needle by means of a combined rubber and metal coupling previously sterilized. The metal tip is connected with the syringe by means of a small piece of rubber tubing, in order to avoid all danger of breaking the syringe point or injuring the cord by bending the syringe or by sudden movement of the patient. Every physician will welcome the news that they are now able to secure antimeningitis serum, because it is the only remedy known to be of service in the treatment of cerebrospinal meningitis. The H. K. Mulford Company, recognizing their responsibility to the medical profession and wishing to co-operate with the members thereof by furnishing therapeutic agents for the treatment of poor patients, will, on receipt of certified order from the physician stating that he receives no fee for his services and that the patient is indigent, furnish the antimeningitis serum, without charge, except in communities where the local board of health supply curative sera for indigent patients.

Acute Gastro-intestinal Catarrh.—

Creosoti (Beechwood)	*m*xij
Tinct. opii camph.	3ix
Bismuthi subnit.	3iij
Pepsini.	3j
Syr. aurant cort.	*m*xxx
Aq. menth. pip.	ad 3iij

Sig.: One teaspoonful every two hours for a child of two years. Vary with the age and severity of the case.—Med. Record.

The Heart in Pneumonia

"From the incipiency of this disease, to and through the convalescence, the condition of the heart is a haunting concern."

In this expressive manner a well-known instructor in therapeutics refers, in a lecture on *"The Treatment of Pneumonia,"* (N. Y. Med. Jour., Jan'y 8, 1910), to a fact of which you have doubtless been painfully conscious many a time. Among the heart stimulants he suggests is **Digalen**—"M X every four hours, and this may be given, if necessary, under the skin or into a vein."

"In treating pneumonia," wrote another prominent clinician in the Medical Record of May 4, 1907, "when we cannot afford to wait for the sometimes slow action of the infusion of digitalis, we now have a rapidly acting preparation in Cloetta's soluble digitoxin **(Digalen)**, a prepared solution of which may be given by mouth or hypodermically. This is reliable and prompt in its effect."

Digalen has the following advantages over the infusion, the tincture or the extract: It is the least irritative to the stomach—"the most delicate stomachs retain and absorb it readily," says Dr. Marrs; it is non-cumulative within the limits of physiological dosage; it is prompt, precise and constant in its action—"can be given intravenously with almost instant effect."

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Protect your reputation—Patronize only honest dru ggists.

LISTERINE is a powerful, non-toxic antiseptic. It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils. It is unirritating, even when applied to the most delicate tissue. It does not coagulate serous albumen. It is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

There is no possibility of poisonous effect through the absorption of Listerine.

Listerine Dermatic Soap is a bland, unirritating and remarkably efficient soap. The important function which the skin performs in the maintenance of the personal health may easily be impaired by the use of an impure soap, or by one containing insoluble matter which tends to close the pores of the skin, and thus defeats the object of the emunctories; indeed, skin diseases may be induced, and existing disease greatly aggravated by the use of an impure or irritating soap. When it is to be used in cleansing a cutaneous surface affected by disease, it is doubly important that a pure soap be selected, hence Listerine Dermatic Soap will prove an effective adjuvant in the general treatment prescribed for the relief of various cutaneous diseases.

"The Inhibitory Action of Listerine," a 128-page pamphlet descriptive of the antiseptic, and indicating its utility in medical, surgical and dental practice, may be had upon application to the manufacturers, Lambert Pharmacal Co., Saint Louis, Missouri, but the best advertisement of Listerine is . . . . . .

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D. S. MURPHY, M. D.
The Wabash Business School for Physicians
Wabash, Indiana

THE MONTH'S MAGAZINES.

Airship Travel.—"Within the coming year, airships with passengers and mail may cross the ocean in one and a half to two days." This is the prophecy made by T. R. MacMechen and Carl Dienstbach, authors of "The Aerial Battleship," "Fighting in the Air," and "The Dirigible of Today," in a presentation, just published in the May Century, of the surprising progress of German plans for transatlantic service. There is nothing more fascinating in modern research than the recital of what Germany has accomplished and is accomplishing in air-navigation. The illustrations of the article will be notable—reproductions from a drawing by Benda and of many interesting photographs.

The American Girl.—To the issue of Harper's Weekly for April 23d, J. B Yeats contributes an Irish view of the American Girl. "The Catholic Girl," he writes, "keeps herself innocent that she may be happy in her home, in her affections, and in her prayers; the Protestant girl, American or English, that she may walk through life with head erect. Yet here, I think, is a difference between these Protestants: the English girl never forgets that she is a woman, while the American girl would impatiently cast off her womanhood and live in a world without sex. Woman can no more escape from her sex than she can from her own shadow, aud whatever agreement or treaty men and women make with one another in the future, Love will be there, a high contracting party."

Tom Sawyer's Aeroplane.—It seems that no writer—unless it be H. G. Wells—can go in fancy so far ahead of facts as to forestall the possibility of being overtaken by them during his lifetime. Surely when Mark Twain set Tom Sawyer and Huck Finn and the indispensable "Jim" adrift in an air-ship over the Great Desert, and made them look down on Arab wedding processions and flirt with the great pyramid, he meant to be just as wildly fantastic as he possibly could; and all his readers rejoiced in the result. But now that the Imperial Aero Club of Berlin is planning to explore Sahara in an aeroplane, it looks as if "Tom Sawyer Abroad" might be overtaken. There is no reason why the aerial explorers may not see all that Tom and Puck and "Jim" saw from their apparently impossible point of view; and they may, if they choose, alight upon the head of the Sphinx.

The Eternal Boy.—In her article on Tangier, in Harper's Magazine for May, Mary Heaton Vorse tells how the street boys of the Eastern city gave the first sense of familiarity to the visitor from America. "It was a boy—a common, or garden boy; though a plum-colored djellab flapped around his bare legs in picturesque lines until he looked like a figure in a fantastic pantomime, he was not to be disguised. A Jew in black gabardine, black skull-cap, chased him, saying things. The boy, as he ran, turned and made faces; also he stuck out a derisive tongue. He also shouted replies. One understood these replies too well to wish to understand more. There was nothing abstruse or Oriental about that boy: he was an intelligent street gamin of the purest type. He dodged the enemy neatly, and a friend joined him in a flank attack, and then another and another. There was no doubt about it. It was 'de gang.' It made no difference that they were dressed as for carnival, that they were of all shades and type, from straight-featured Arab lads to a black devil who looked as though he had come yesterday from Virginia—it was 'de gang' just the same, raising the same kind of lark that you may see them raising on Christopher Street any day when there's no plain clothes man in sight. The Jew disposed of, they spotted us, and sat down on seats in the cafe and pulled out cigarettes from the big leather pouch that every male Moor wears by way of pocket. With grins they pestered the stranger for pennies, wheedled cigarettes from him, and pointed out gayly to the beggars of Tangier that a new bunch of Easy Marks had struck town. It was a brave and soul-comforting spectacle. It was a fact to cling to, in this strange and unfamiliar country, that left to himself the human boy is pretty much the same all the world over."

The Most Famous Living American.—One conclusion seems to be almost universally accepted' by friend and foe alike: Mr. Roosevelt is the foremost and famous of living Americans. If this were not realized before, it is now. His trip is marked by demonstration of interest, admiration, and respect surpassing anything of the sort ever before shown. Certainly no such honors were ever paid a citizen of the United States traveling abroad. General Grant on his memorable tour of the world, with a high military and civic prestige behind, was everywhere greeted with cordiality by official personages. Not only do those high in official place vie with one another in honoring Roosevelt, but the masses of the people are alive to his personality and fame and delight to give him the homage of their acclaim. Crowds in the streets, at railway stations, on quays, in theaters, wherever he appears, in Egypt, Italy, France, Austria (I write as the tour is in progress), testify to the fact that this American, in some way or other, has managed to impress himself upon the consciousness to peoples who are generally quite indifferent to all that goes from out the western republic. Even those who must be regarded as woefully ignorant of America and its affairs and personages, seem to have heard of Roosevelt, to know that he is called "Teddy," and to be fairly familiar with some of his other characteristics and surroundings.—From "The Home-Coming of Roosevelt," by Walter Wellman, in the American Review of Reviews for May.

The Use of Alcohol.—Stimulants inevitably come with civilization. Some observers consider them important agents in the selection of the fit for survival. Civilized men who can deal successfully with stimulants, either by using them with judgment (which means great moderation) or letting them alone, got on better, and have stronger families than those who can't. Relief from effort, temptation, and struggle does not make people strong. We can conceive of a world without temptation, yet this world was not so devised. We pray to be delivered from temptation; we shield from it in so far as we may, those who seem not old enough or not strong enough to withstand it. Nevertheless, temptation is a part of life, and there is better hope of training characters strong enough to meet it than of eliminating it from human existence. We are in sympathy with the regulation and taxation of liquor-selling, in sympathy with much of the legislation that aims to keep liquor out of unfit hands, but we can well understand the attitude of those who hold that the future of the American people would be much affected if every law relating to alcoholic drinks was wiped out of the statute-books. In that case the destruction of unfit and irresponsible would be more rapid, but there would still be a great residue capable of self-restraint and wise enough to live and thrive in a rum-selling world.—Harper's Weekly.

A Question of Psychology.—"The average child is a veritable barbarian," said the Psychology Professor, "and until its mind is sufficiently developed to comprehend the deeper meanings of religion, it remains a little pagan."

Young Mrs. Windson smiled politely; but with a my-child-is-not-as-other-children-are expression she said:

"That may be true in many instances, but I do wish you could hear my little Lois say her prayers. She is so earnest that I believe she fully understands all I've tried to tell her."

It was the Professor's turn to look politely incredulous.

I'll call her in and let her answer for herself," she added, somewhat nettled by his indifference.

In response to her summons, a small girl entered the room.

"Darling," said the mother fondly, "tell Professor Brindly to whom you say your little prayers."

Lois looked up with an expression of angelic sweetness.

"To the bed." she answered briefly.—May Lippincott's

MEDICAL SOCIETY CALENDAR.

American Medical Association, St. Louis, June 7-10.
American Proctologic Society, St. Louis, Mo., June 6-7.
Colorado State Medical Society, Colorado Springs, October 11.
Idaho State Medical Association, Boise, October 6-7.
Indiana State Medical Association.
Iowa State Medical Association, Des Moines, May 20-22.
Kentucky State Medical Association, Lexington, October.
Medical Association of the Southwest, Witchita, Kas., October 11-12.
Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 1 and 2.
Michigan State Medical Society, Bay City, September 28-29.
Minnesota State Medical Association, Minneapolis, October 6-7.
Mississippi Valley Medical Association, Detroit, Mich., September 13-15.
Nevada State Medical Association, Lake Tahoe, Cal., September.
Oregon State Medical Association, Portland, July.
South Dakota State Medical Association, Hot Springs, October.
Utah State Medical Association, Salt Lake City, September.
Washington State Medical Association.
Western Surgical and Gynecological Association.
Wisconsin State Medical Society, Milwaukee, June 22-24.
Wyoming State Medical Society, Casper, September 27.

MEDICAL MEMORANDA.

The Gospel of Fresh Air.—The Red Cross combination tent-couch solves the problem of out-door life for your patient. The most practical invention of the day. Investigate it, doctor, and recommend it to your patients. See page 58.

The Treatment of Chronic Bronchitis in the Aged.—(by Clark Smith, M. D., Berkely, Calif.)—I have had remarkable success in chronic bronchitis of the aged with capsules containing ½ grain of glycerophosphate of quinine, 1 minin of creosote benzoate and ½ minin of benzoate of eucalyptol, called kugloids, on account of the author of the formula, Dr. Kugler of Paris. They were used by me in a very severe chronic case of bronchitis in a man of 65 who had been a sufferer for 15 years, with the very best success. The cough was relieved and the inflammatory condition of the bronchial mucous membrane and the catarrhal condition was rapidly and permanently benefited. In influenza, which is very common in this part of the country, I have been particularly satisfied with their utility,and especially to overcome the depressing effects of the toxines thrown into the circulation by micro-organisms. They relieve the hoarseness and are well suited to this class of patients. especially where there is a tendency to neurasthenia which is so frequent as a sequela of influenza.

The Therapeutic Value of Iodine and Lime.—Theoretically calx iodata should be one of the most positively useful remedial agents in the phthisis pulmonalis and the hundreds of clinical reports received during the past two years convert theory into fact. Calcidin, guaiacol and nuclein may perhaps be regarded as the three remedies capable of controlling the pathological conditions existant in pulmonary tuberculosis, and their combination, in nuguaicol, Abbott, is producing excellent results. The value of calx iodata in the treatment of croup (non-membranous) is too well known to need mention, but sometimes the physician who relies upon calcidin in such cases fails to realize its efficacy in acute coryza, bronchitis and other catarrhal conditions of the upper respiratory tract. As a matter of fact, a trial will prove it the most effective of all the remedies lauded for these and allied disorders. Some particularly interesting and timely literature on calx iodata, also on nuguaicol, can be obtained from the Abbott Alkaloidal Co., Ravenswood Sta., Chicago. Samples await your request.

A Distinct Advance in Bacterin Therapy.—The secret of success in bacterin therapy is to be found in the dosage, as to amount and interspacing. Sufficient bacterin should be injected to keep the opsonins in the blood at high tide, avoiding unnecessarily large doses—for opsonins are wasted intaking care of excess—and not repeating too frequently, thus preventing the tide from rising to

the maximum. On this account a graded system of syringe containers has been adopted by the H. K. Mulford Company in place of the ampuls previously employed for supplying bacterins for dispensing. The great disadvantage of the ampul container was its inflexibility. After the first dose was removed from the ampul there was always the risk of contamination, and many physicians preferred to discard the remainder rather than to take the risk. This objection is overcome by the graduated syringe containers. Each package contains four syringes of bacterin, marked "A," "B," "C" and "D" respectively. Each syringe being marked in fifths, for an approximate measuring of dosage—the scale being sufficiently accurate for all practical purposes. It will thus be seen that there are twenty or more doses in each package and no waste. The syringe container has also the advantage of removing all danger of infection through an imperfectly sterilized hypodermic syringe. The syringe with its plunger and needle, is carefully sterilized in the laboratory before it is filled. When the rapidly growing importance of bacterin therapy is considered, the value of this improvement in technique introduced by the H. K. Mulford Company will be at once appreciated. The typho-bacterin immunization of armies against typhoid fever is becoming a potent agent against a scourge responsible for more deaths in war than the bullets of the enemy; the use of Neisser-bacterin, in the hands of physicians who have learned to use it, is proving a most effective weapon against the great black plague; the mortality from pneumonia has already been reduced by the use of pneumo-bacterin; and other infectious diseases are yielding to bacterins after resisting the usual forms of treatment—all of which goes to prove that bacterin therapy has come to stay, and any system of dispensing bacterins which places these products in the hands of the busy practitioner in a convenient and economical form should be heartily welcomed.